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Cholera Notes.

[Translated in this Bureau from the "Veröffentlichungen des Kaiserlichen Gesundheitsamtes," Berlin, December 25, 1895.]

AUSTRIA-HUNGARY—*Galicia*.—From December 10 to 16, 11 cases and 7 deaths were reported from 3 communes belonging to 2 political districts. Of these, 5 cases, 3 deaths occurred in 1 commune of the district of Husiatyn; 6 cases, 4 deaths in 2 communes of the district of Trembowla. The total number of cases and deaths reported since August 23 in 56 localities belonging to 14 districts, was 424 and 278, respectively.

EGYPT.—According to advices of December 13, 16 cases, 17 deaths were reported at Damietta from December 5 to 11; at Matarieh near Menzaleh, on December 8, 1 case, 1 death; at Faraskoor from December 4 to 10, 10 cases, 13 deaths; at Zarka, from December 7 to 9, 5 cases, 4 deaths; at Borachia, from December 4 to 5, 2 cases, 2 deaths; at Cairo, from December 7 to 11, 1 case, 2 deaths; at Hehya, on December 8, 1 death.

MOROCCO.—At the village of Stellen, which is separated from Rabat only by the river Buregrey, there were 13 cholera deaths on December 5. The epidemic has broken out in the city of Asimur in the vicinity of Masagan.

EGYPT.

Origin of cholera in Egypt in 1895.

Reported to the sanitary, maritime, and quarantine council of Egypt by a commission sent to Damietta to determine the nature and origin of the disease which broke out in that city October 10, 1895.

[Forwarded through the Department of State from Constantinople by Dr. S. C. ZAVITZIANO.—Translated in this Bureau.]

Members of the commission.—Dr. H. Legrand, sanitary physician of France, member of the sanitary council of Egypt; Dr. Burlazzi, official director of the port of Alexandria; Dr. A. J. Gauthier, physician at the sanitary station of Suez and the Wells of Moses.

Preamble.—The commission arrived at Damietta October 15 at 4 p. m., and at once began its investigations.

EXISTENCE OF ASIATIC CHOLERA AT DAMIETTA.

The first cases examined by the commission were in the hospital at Damietta. The patients were 7 in number, and of all ages. Two were in a dying condition. The cases presented all the characteristic symptoms of cholera. The commission telegraphed the council that on the evidence of clinical examination the existence of cholera at Damietta was indisputable. At 10 o'clock the two patients named were dead. At midnight the commission performed the autopsy upon them.

Pathological anatomy confirmed the previous clinical examination, and bacteriological test with cultures in salt peptone demonstrated the presence of Koch's comma bacillus. A very abundant pullulation of fetid bacterium coli communis concealed or prevented the development of specific germs in the second case, but the examination of the plates was conclusive. Culture of the dejecta of a third patient, still living, gave positive results on the same day. The existence of Asiatic cholera at Damietta was thoroughly demonstrated.

DID THE EPIDEMIC BEGIN AT DAMIETTA?

The city of Damietta is situated on the right bank of the Nile, about 12 or 15 kilometers from its mouth. It numbers 35,000 inhabitants, but a much larger population

could be contained within the city limits. A great number of houses are abandoned or in ruins.

Damietta is unjustly reputed an unclean city. In 1883, at the time of the epidemic which originated there, Dr. Mahé pointed out the exaggeration of the charges against the sanitary condition of Damietta. Since that period Damietta has remarkably improved. The quay and the street of the bazaar are paved with large flag stones, like the streets of Alexandria. A large cemented cistern, the property of the city, has replaced the numerous private and infected cisterns which were formerly in use. The sewers are not constructed to empty into the river. At the time the commission visited Damietta the Nile was enormously swollen. There was great stagnation of filth on the river banks. An army of street sweepers and sanitary agents was at work cleaning the streets, and the mosques and schools were closed.

The commission visited the streets and houses in which the first cases appeared, but from the outset of their investigation it was apparent that the epidemic could not have originated in Damietta. The first 2 choleraic deaths occurred on October 12. The appearance of the disease, in the first person attacked, was observed on the evening of the 9th. Deducting from these dates the five days' period of incubation, we arrive at the conclusion that the germs of cholera entered Damietta between the 4th and 8th of October.

CHOLERA DID NOT ARRIVE BY SEA.

It was generally believed at Damietta that cholera was imported from Asia Minor by sea. The quarantine office at Boghaz was without a medical officer after July 8, the physician in charge having been sent to Port Said to relieve his colleague there, who was ill. Some localities in Karamania were known to be infected with cholera. Damietta stands in close relation with ports on that coast line, and a passenger from Alaïa, a port of Karamania, was known to have arrived at Damietta on October 11, the date of the first cholera outbreak. On examination it was found that the ports of Karamania were made subject to quarantine measures and relieved from quarantine on the following-named dates:

May 27: Ports between Anamur and Alexandretta declared infected.

August 13: Alexandretta included within the contaminated zone.

August 17: The entire coast line between Cape Anamur and Cape Kaledonia included.

September 14: Measures suspended for the ports between Kaledonia and Suedia, but continued for Adalia.

September 28: All quarantine raised.

With regard to the quarantine station at Boghaz, the commission learned that a chief clerk performed the duties of director ad interim. At the slightest suspicion with regard to the sanitary condition of crew or passengers, he was expected to notify the sanitary physician, who was required, under penalty of a fine, to perform a visit of medical inspection.

With regard to the passenger who arrived at Damietta October 11, it should be remarked (1) that he left Alaïa at a time when that port was not infected; (2) that he arrived at Damietta October 11, after the first cases of cholera were declared.

From these facts we conclude that cholera was not imported into Damietta by way of the sea.

WAS CHOLERA IMPORTED INTO DAMIETTA BY LAND OR BY WAY OF LAKE MENZALEH (EXCLUDING PORT SAID)?

Having disposed of the hypothesis of importation by way of the quarantine station of Boghaz, the commission proceeded to investigate the general relations of Damietta with the towns lying to the south.

Damietta communicates with Port Said by way of Lake Menzaleh. Fifty passengers at least make the transit daily, and commercial transportation is very active. In response to inquiry, the commission was informed by the quarantine authorities that the sanitary conditions of Port Said, especially in the Arab quarter, were entirely satisfactory. No suspicious case had ever been reported.

Damietta communicates, also by way of Lake Menzaleh, with various towns situated on the lake, notably with Menzaleh, Matarieh, and El Nasaïma, intermediate towns and villages between Damietta and Salkhieh, which is situated farther south and in the open desert. The attention of the commission was attracted to Salkhieh by the fact that about the middle of September a form of severe sickness prevailed there. The sanitary service declared it to be nonsuspect, but it excited much alarm in the vicinity, and even in Damietta.

At this season an active trade sets in among the lake cities. Damietta, Menzaleh, and Matariah export southward enormous quantities of fissikhs, which are half rotten, sun-

dried mullet. In exchange, Salkheih sends green dates, of which the Arabs are very fond, and later on sun-dried dates. Venders go from city to city, and the lake boats ply freely. This trade constitutes a potent means of transmission of disease by contact. The dried mullet, being organic matter in various stages of decomposition, may be classed in the category named in sanitary terms, susceptible.

One other possible source of infection existed at Damietta. From October 4 to 8 a small fair, religious in its character, but to some extent commercial, is held there. An agglomeration of foreign elements, the possible agents of transmission of contagious disease, was therefore present in Damietta during the period of incubation of the cholera germs, viz, from October 4 to 8.

Before that period and until the outbreak of the first cholera cases, mortality at Damietta was at its usual rate.

BAHR-EL-SOGHAIR, MENZALEH, EL NASAIMA.

The commission, having concluded its investigations at Damietta, was authorized by the council to investigate Salkheih and the intermediate towns. On the morning of October 19 the commission set out for Menzaleh by way of the Bahr-el-Soghair, or Little Canal. This canal leaves the Nile at Manzourah and winds through one of the most beautiful farming regions of Egypt. Its banks are lined with villages and cotton fields. After leaving Dekerness, the capital of the district, the canal decreases in volume. At Menzaleh, where it empties into the lake, it is only one-fifth of its original width. During the first stages of its course it is merely turbid, like other waters of the Nile, but as it flows farther from its source it becomes extremely foul. The sewers from private houses and mosques empty into it, and at a little distance from Menzaleh the surface of the canal is covered with organic debris of all sorts. The water resembles a pea soup in consistency. On the return voyage the commission counted seventeen floating carcasses. The water becomes so noxious that the fish, which are abundant, are poisoned. In the vicinity of each village is a birket, or depression, from which earth is taken for the manufacture of brick used in the construction of houses. These depressions are flooded from the canal and form ponds of stagnant water covered with a greenish scum. To complete the chances of infection the cemeteries are located along the bank of the canal, and at high water are overflowed.

Dekerness, at which the canal boat stops twenty minutes, is a small town of 6,000 inhabitants, and is clean and attractive. It has a new market, well conducted, and a hay market, both outside the town. The district physician, Dr. Ahmed Arafat, and the chief of police assured the commission that no suspicious case had occurred there. The town sent no pilgrims to the pilgrimage of 1895. Dekerness may therefore be erased from the list of suspicious places.

Abausrate, a short distance from Dekerness, is a miserable village. Here a cholera case was reported as having occurred. The commission authenticated the report and found that the case had been followed by a second.

Menzaleh is an hour's journey from Abausrate. Here nothing had been done in the interest of hygiene, and it is difficult to imagine a dirtier place. It is a town of more than 6,000 inhabitants, who are almost universally employed in the catching and preparing of fish. It occupies a large area which is half covered with ruins. In the center is a large cemetery.

The fish market is a long, narrow street with small alcoves on both sides which serve as shops or stands for the vendors. This street is covered in with a wooden ceiling in which holes are cut to let in light. The sun never reaches it and the atmosphere in it is atrocious. The soil of the town is humid and sticky and impregnated with organic matter. The refuse of fish is found everywhere. The commission visited the ambulance, a sort of shelter covered with mats, in which the sick who had been discovered and forcibly dragged from their miserable lodgings were isolated. Here, as at Damietta, the conditions for Asiatic cholera were present in full force. The registry of deaths at Menzaleh and at the neighboring village of El Nasaima, at which cholera was also prevalent, was submitted to the commission. They are of small value to a medical investigation. Menzaleh and its environs furnished six pilgrims to the pilgrimage of 1895. All of these were in good health at the time of the visit of the commission.

SALKHIEH.

From Menzaleh the commission returned to Mansourah, and from there took the railway, by the Zagazig line, to Salkheih.

This town is an agglomeration of hamlets, situated at the extreme eastern frontier of the Delta on the borders of the desert, in which it forms an island of verdure. It is at present the terminus of the trunk line which is to unite Egypt with Syria, crossing the maritime canal at Kantara.

The aspect of the country is in the highest degree charming. The air is pure, the soil loose and dry, and the sanitary conditions are excellent. On a superficial examination the local conditions appear to be eminently unfavorable to the preservation and propagation of infectious diseases.

The chief beauty of Salkhieh consists in its groves of magnificent palm trees. The fellahs cultivate cotton in the cleared spaces between the groves. The water supply is from a canal which drains the Nile at a point north of Cairo. Eastward the arid desert stretches to the maritime canal, of which Kamtara is the landing place, distant six or eight hours' march. The desert extends south and north of Salkhieh. To the north it ends in a vast marshy surface, inundated during the season of high water in the Nile; that is to say, in August and September. These details are important to the consideration of the subject of this report. The export trade of Salkhieh is in dates, which are bartered for dried mullet. The fish market is situated in the open desert, and even there the odor is disagreeable. Salkhieh is the resort of Bedouins, camel drivers, and wandering beggars and marauders. Public health is, however, excellent and the rate of mortality is low. The usual causes of death are accident or old age.

THE EPIDEMIC OF SALKHIEH.

On September 16 a rumor reached Cairo that an epidemic disease had broken out in Salkhieh and was causing a number of deaths. The sanitary inspector of the province made an investigation in person, and reported to the sanitary administration that the disease was a choleric form affection. He requested to be supplied with tents for an isolation camp. These were promptly forwarded and a tent hospital was installed at Khévuat. At the time of the inspector's visit the sick and dying were lying under the palm trees. There had been up to that time 12 deaths out of 20 known cases. The village people were doing all in their power to conceal the disease.

The cases examined presented marked choleraic symptoms, but bacteriological examination failed to show the presence of the comma bacillus. On September 30 the sanitary department issued a statement to the effect that the epidemic at Salkhieh was a "gastro-enteritis caused by excessive use of dried fish and dates."

The inspectors took the precaution to leave the hospital at Khévuat in operation, and to disinfect the houses in which cases were known to have occurred. No new cases were observed.

SPREAD OF THE DISEASE.

The suspicious epidemic at Salkhieh ceased October 4. On October 5 the disease was observed at El Nasaima near Menzaleh. In this village of 500 inhabitants there had been only 2 deaths from January 1 to October 5. From October 5 to 15 there were 10 deaths. On October 15 the disease was officially recognized as cholera. It had already been acknowledged under its true title at Damietta on October 11, and at Menzaleh on October 12.

The facts on which the commission rests the assertion that the epidemic at Salkhieh was identical with that recognized at Damietta and Menzaleh, and that both were cholera, are:

- (1) Clinical symptoms and pathological anatomy as described by the physician in charge of the tent hospital at Khévuat. The absence of the comma bacillus proves only that certain conditions prevented its recognition and isolation.
- (2) Contagiousness. The progress of the disease from house to house can not be shown on account of the resistance of the inhabitants to medical inspection and their obstinate concealment of cases. Three cases were, however, traced and located, and their history clearly demonstrated communication of the disease.
- (3) The propagation of the epidemic at the fair held at Damietta.
- (4) Presence of the comma bacillus of Koch found in the 3 most characteristic cases at Damietta.

ORIGIN OF THE CHOLERA OUTBREAK AT SALKHIEH.

Spontaneous generation of cholera is an hypothesis already judged and condemned. It would be an absurdity in the face of the natural conditions described as existing at Salkhieh. The hypothesis of a recrudescence of cholera germs is also untenable in this case, since cholera was never before known to exist in Salkhieh.

As regards the consumption of fish and dates, some digestive disturbance might result from it, and some symptoms of ptomaine poisoning, caused by spoiled fish. The use of these articles of food is general throughout Egypt. It is no more apt to engender cholera than any other epidemic and contagious morbid entity.

It is the opinion of the commission that cholera was imported to Salkhieh. The

route of importation can not be discovered. It seems probable that it developed from a light form of choleraic affection, the germ becoming virulent in another organism, or in a favorable medium.

With regard to the theory of importation by way of the Hedjaz, which was infected with cholera during this year, the commission learned:

That three pilgrims left Salkhieh for the pilgrimage of 1895. They were Hadji Abdallah and two women of his family. They made the pilgrimage in perfect health, arrived at Suez by the *Chihin*, August 4, and reached home August 6 or 7 by the Suez, Abou-Kebir and Salkhieh Railway. Their names are not on the register of the hospital at Tor. Their baggage was disinfected. Abdallah himself, stated that his effects had so disagreeable an odor after disinfection that he left them at Tor. No pilgrim caravan, and no individual pilgrim went by way of Kantara. The quarantine director at Kantara, states that during the six years in which he has held the position, no pilgrim has ever returned by way of his station.

CONCLUSIONS.

The results of the investigations of the commission may be briefly stated as follows:

(1) The disease which broke out at Damietta, October 10, 1895, was Asiatic cholera.
 (2) Cholera was imported to Damietta by land or by way of Lake Menzaleh, favored by the active trade in dried fish and dates, increased at a given time also by the fair held at Damietta.

(3) Cholera existed previously in other localities situated southward, viz, El Nasaïma and Menzaleh.

(4) Cholera in the localities named is a propagation of the disease which existed at Salkhieh among the fellahs and Bedouins assembled for the date gathering. This disease, attributed to the consumption of dried fish and dates, was contagious and epidemic and was undoubtedly Asiatic cholera imported into a remarkably healthy country.

(5) Cholera was officially recognized in Egypt comparatively long after its outbreak. The natural conditions of Salkhieh were opposed to a rapid extension of the disease and favored its extinction.

(6) The three pilgrims, who left Salkhieh to make the pilgrimage to Mecca, were not sick en route, submitted to all quarantine precautions, and returned in good health, and without bringing their baggage.

(7) The precise date of the first case and the name of the person attacked can not be learned. This fact is not surprising in a locality where the population is chiefly nomadic and is subject to no medical or sanitary supervision. The registers are kept by the barbers.

DR. H. LEGRAND, *Reporter*.

DR. BURLAZZI.

DR. A. J. GAUTHIER.

JAPAN.

Relative to the shipment to the United States of certain articles from Japan.

OFFICE OF THE SUPERVISING SURGEON-GENERAL,
 MARINE HOSPITAL SERVICE,
 Washington, D. C., January 10, 1896.

SIR: Referring to the exportation of articles from Japan to the United States, packed in earth and manure, you are informed that in the opinion of this Bureau the cholera germ, if present, would probably not be capable of causing infection after the lapse of sixty days.

Respectfully, yours, FAIRFAX IRWIN, *Surgeon, M. H. S.,*
For Supervising Surgeon-General M. H. S.

STUART ELDRIDGE, M. D.,
Sanitary Inspector, M. H. S., Yokohama, Japan.

TURKEY.

Two cases of cholera in Constantinople—Quarantine restrictions.

[Report No. 143.]

CONSTANTINOPLE, December 27, 1895.

During the last week 2 fresh cholera cases were registered in the town of Constantinople. One of them occurred at Pera and the other